

BREEDING-RANGE EXPANSION OF THE SCISSOR-TAILED FLYCATCHER INTO MISSOURI AND IN OTHER STATES

ALEXANDER CARL WARNER

THE breeding range of the Scissor-tailed Flycatcher (*Muscivora forficata*) has in the past been limited to the southern section of the grassland biome and adjacent ecotones. However, it has become evident that the range has been expanding, principally northeastward. The main objective of this study was to determine the status of this species as a breeding bird, and its distribution, in Missouri. A second purpose was to analyze nesting records from other fringe areas for evidence of range expansion, and to establish as nearly as possible the present breeding range.

AREA, METHOD, AND PERIOD OF STUDY

Fieldwork was carried out between April and October of 1961, 1962, and 1963. Most of it was done in southwestern and west central Missouri, but western Missouri north of the Missouri River was also investigated. Leads to locations of Scissortails were found in the *Bluebird* quarterly and in conversation with persons who had seen the bird. The validity of all reports was checked, by examining the locality where birds were seen or by talking with persons making the reports. One trip was taken to the center of the breeding range in central Texas to compare behavior, habitat, and population with those of Missouri.

Thus, determination of the present breeding range of the Scissor-tailed Flycatcher in Missouri was established by my field observations and through reports of others. Current breeding-range information from other states was obtained by analyzing available ornithological literature, and by corresponding with authorities in various states.

In 1961 most of the fieldwork was devoted to studying a pair of Scissortails nesting at the James A. Reed Area in Jackson County, Missouri, and in locating other nesting pairs in Jackson and Cass counties, Missouri.

During the years 1962 and 1963, range work became more extensive. Observation of nesting Scissortails during 1962 and 1963 required a major part of field time. Three weekend trips were made into northwestern Missouri where habitat seemed favorable, but no Scissortails were sighted. Several trips were taken through the southwestern Missouri counties and almost daily trips were made to southeastern Jackson County, in attempts to locate breeding pairs in the study area. Approximately 20,000 miles were driven during this study.

Binoculars (7 × 50) were used in most of the field observations. Young

birds found in the nest were banded. During 1962 and 1963, attempts were made to mist-net adults by holding their young near the net, but none were caught.

BREEDING RANGE

Although the main objective of this study was to illustrate the expansion of the breeding range of the Scissor-tailed Flycatcher since the 1957 AOU Check-list, pertinent information from earlier literature has been cited to show that the expansion is not entirely a recent phenomena.

The questionable value, either wholly or in part, of early breeding-range accounts by Bonaparte (1825), Audubon (1839), Baird, Cassin, and Lawrence (1860), Baird, Brewer, and Ridgway (1874), and Coues (1874) has placed limitations on their usefulness concerning possible breeding-range expansion during that period. A comparative examination of the AOU Check-lists with these earlier reports illustrates their vagueness and inaccuracy. The practice of the American Ornithologists' Union of compiling breeding-range records has led to a progressive improvement in accuracy.

The following state-by-state analysis of breeding-range information illustrates both past and current expansion: Figure 1 shows the total species range as here outlined, with recent nesting records at the periphery indicated.

Arkansas.—Western Arkansas has been included in the breeding range of the Scissortail since Third Edition of the AOU Check-list, but Baerg (1951) stated that the species was known to nest only in Sebastian, Logan, and Pulaski counties. He reported that the species probably occurred in the other western counties of the state, but had no records.

The field records of Dr. and Mrs. Douglas James (in litt.) show that Scissor-tailed Flycatchers are found in other locations in the state. Their records have definitely established that this species nests in White, Benton, and Conway counties and possibly in Prairie, Miller, Columbia, and Faulkner counties. James reported that the population in Conway County, south of the Arkansas River, was the highest in the state, but he gave no numbers.

According to James (1965), the Scissor-tailed Flycatcher continues its eastward advance in Arkansas with many at Pine Bluff, Jefferson County and two at Lonoke, Lonoke County.

Colorado.—The first reference to any part of Colorado being in the breeding range was in the Fifth Edition of the AOU Check-list, which mentioned southeastern Colorado.

Kansas.—The early reports of Baird, Brewer, and Ridgway (1874), Goss (1891), and the first three editions of the AOU Check-list gave southern Kansas as the northern extent of the breeding-range; however, the Fourth

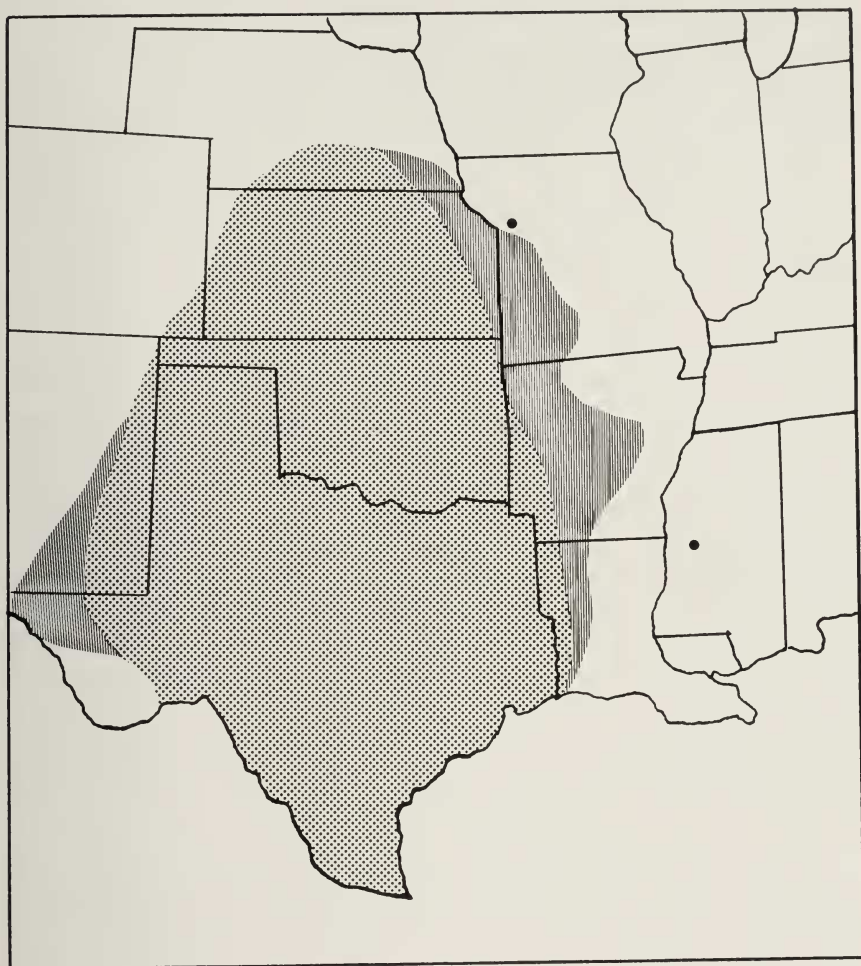


FIG. 1. Present breeding range of the Scissor-tailed Flycatcher.

▨ Breeding range according to the Fifth Edition of the AOU Check-list (1957).

▨ Breeding range expansion since the Fifth Edition of the AOU Check-list.

● Possible nesting records, adults seen with young during breeding season.

Edition of the Check-list included southern Nebraska. Fitch (1950) erroneously cited Bent (1942) as setting the northern limits of the range in southern Kansas.

The Fifth Edition of the AOU Check-list gave the breeding-range as the central and southeastern part of the state, based upon Goodrich's (1945) report that the bird was breeding in central Kansas. Robert Mengel (in litt.) said

that the species was seen infrequently in summer in a number of eastern Kansas counties including Douglas, where it has been found to breed.

Louisiana.—Oberholser (1938) reported the Scissortail to be a casual summer visitor in the southwestern part of the state. Oberholser also indicated that the species was reported to breed in the state but gave no definite records of nesting. The AOU Check-lists have included western Louisiana in the breeding range since the Third Edition. Lowery (1960) pointed out that the Scissortail has been recorded in Louisiana in every month of the year but is never found outside of its breeding area in northwestern Louisiana except during migration. Lowery (in litt.) said there is some evidence that in the summer of 1963 Scissortails were more numerous than before, particularly along the highway between Natchitoches and Bossier City. According to Stewart (1963) at least five pairs, two with fledglings, were seen at various times in late June and early July near Grand Cane in DeSoto Parish. This area is the "southernmost upland locality" in which breeding is definitely established (Stewart, 1963).

Mississippi.—Stewart (1963) reported that Scissor-tailed Flycatchers near Bentonia, Mississippi, on 24 July 1963, and three more, including a juvenile at Gum Cove on 15 July 1963, may have been postbreeding wanderers, but mentioned that they may have nested in the area. The species' breeding in the Gum Cove area is not improbable due to the closeness of definite breeding records in Arkansas and Louisiana.

Nebraska.—The Fourth Edition of the AOU Check-list (1931) merely stated "southern Nebraska." Haecker, Moser, and Swenk (1945) have found the Scissortail a rare summer resident in southeast Nebraska but reported the bird nesting in Adams, Lancaster, and Logan counties.

Sturmer (1959) reported a Scissortail nesting in Gage County, southeastern Nebraska, and Doris Gates (in litt.) mentioned that the Scissortail has nested there since that time. Gates found the species quite rare in other parts of Nebraska. According to Ford (1959), a specimen he collected 4 miles west of Halsey represents one of the most northerly records.

New Mexico.—Bailey (1928) indicated that the Scissortail was a "straggler" until 1912 when a pair was found breeding in Hobbs, located on the border of New Mexico and Texas. Numbers increased, and by 1915 they were nesting 2 miles south of Carlsbad, approximately 75 miles west into the state. Ligon (1961) stated the Scissortail was confined to eastern and southeastern New Mexico. In recent years the population has been increasing, and apparently has expanded its range west and is common in the Pecos Valley. Zimmerman (1962) cited a record of a Scissor-tailed Flycatcher nesting 10 miles south of Roswell on 22 June 1962.

Oklahoma.—The Scissortail is one of the state's most common birds and

has even been chosen as the state bird (Smith, 1965). According to Baumgartner (in litt.), the Scissortail is a fairly common to common summer resident throughout most of the state except in the oak-hickory forest associations in the eastern counties along the Missouri and Arkansas borders, and it has a limited distribution in Cimarron County in the Panhandle of eastern Oklahoma.

Texas.—The Fifth Edition of the AOU Check-list gives the breeding range as all of Texas except the southwestern tip. Fisk (1960) reported unsuccessful attempts by two pairs of Scissortails to nest in southwestern Texas near El Paso in 1960.

Missouri.—Baird, Brewer, and Ridgway (1874), Coues (1874), Bennitt (1932), and the AOU Check-lists before 1957, to mention only a few, listed southwestern Missouri as part of the breeding range of the Scissortail.

According to Daniel McKinley (in litt.), an analysis of the unpublished papers of Otto Widman showed that Widman had no authentic records of Scissortails in Missouri, "still less of its breeding," but stated that an authentic source may have been Nehrling's "Our Native Birds of Song and Beauty," (two volumes; in English and German editions, 1896), as Henry Nehrling lived for 5 years in the western Ozarks. This, of course, does not explain the source of earlier statements.

The Fifth Edition of the AOU Check-list (1957) excluded southwestern Missouri as part of the breeding range. Edward M. Reilly, Jr., responsible for much of the range data in this edition, stated (in litt.): "The inclusion of this species in southwestern Missouri as a breeding bird in early editions must have been an error, since diligent search of the literature failed to uncover one valid breeding record."

Bennitt (1932) cited Gordon (unpublished thesis, University of Missouri) as having seen several at close range near Rocheport, Boone County, Missouri, 14 June 1924. There is no reference to age, sex, or activities of these birds. According to William Elder (pers. comm.), there is some question from Gordon's descriptions as to whether these birds were actually Scissortails.

Table 1 indicates, in chronological order, the known occurrences of the Scissor-tailed Flycatcher in Missouri by counties and Figure 2 summarizes these records.

The first definite sighting of the Scissortail in Missouri was in Morgan County in 1955 by D. A. Easterla (pers. comm.). Since then their distribution and number have greatly increased, and they have been sighted as far east as Boone County in central Missouri.

The earliest published record of nesting in Missouri was by Hilty (1957), who found a nest in St. Clair County near Lowery City. The eggs hatched on 20 June 1957, but the young were killed 9 days later by a storm.

TABLE I
THE SCISSOR-TAILED FLYCATCHER IN MISSOURI (1955-64)

Location	Date	Num- ber of eggs laid	Num- ber of young fledged	Remarks	Observer
1. Morgan Co., 10 mi. south of Gravois Mills	2 May 1955			One Scissortail.	Easterla ¹
2. Clay Co.	4 August 1957			One pair sighted.	Gier (1957)
3.	4 August 1957			Pair feeding with young.	Gier (1957)
4. Liberty	1963-64			Pair nesting.	Newlon ²
5. Mud Lake	17 May 1964			Pair observed.	Newlon ²
6. St. Clair Co., Lowery City, Sec. 11, T39N, R26W	18 June 1957	5	0	Young killed in storm 29 June.	Hilty (1957)
	26 April 1958			Spring arrival.	Hilty
	25 May 1958			Pair observed building nest.	Hilty
	14 April 1959			Spring arrival.	Hilty
	31 May 1959			Two pairs found nesting.	Hilty
	12 June 1959			Pair found nesting.	Hilty
	18 April 1960			Spring arrival.	Hilty
	29 May 1960			Pair found nesting.	Hilty
	24 June 1960			Pair found nesting.	Hilty
	19 April 1961			Spring arrival.	Hilty
	5 July 1961	3	0	Bull snake (<i>Pituophis melanoleucus</i>) ate young.	Hilty
	15 April 1962			Spring arrival.	Hilty
	7 August 1962		3	Pair feeding with young.	Hilty
	7 August 1962		1	Pair feeding with young.	Hilty
	16 April 1963			Spring arrival, no field work during nesting season.	Hilty
7. Christian Co., Sec. 33, T27N, R21W	12 July 1958			Pair found nesting.	Fay (1958)
8. Old U.S. 65, T27N, R21W	June and July 1958			No nests located, but occasionally adults were seen.	Fay

- | 9. | Jackson Co.
Reed Area, Sec. 15, T47N, R31W | Summer 1957-58
Summer 1959
Summer 1960
16 April 1961
28 May 1961
Summer 1961 | 3
Pair nested.
5 | Adults seen.
Nested, but no detailed information available.
Pair nested.
Spring arrival.
Nest building 28 May, eggs hatched June.
Pair nested. | Grogan
Grogan
Grogan
Warner
Warner | | | |
|-----|--|---|------------------------|---|--|--|--|--|
| 10. | Blue Springs, State Rte. 7
Sec. 19, T48N, R30W
Reed Area, sec No. 9 | 25 April 1962
7 July 1962
20 May 1962 | 2
5 | Spring arrival.
No nest found, but two young were seen with adults.
Infertile eggs found 9 June. | Warner
Warner
Warner | | | |
| 11. | Ranson Road and U.S. 50,
Sec. 9, T47N, R31W | 11 June 1962
21 June 1962
25 June 1962 | 5
2
3 | Egg laying started 16 June, eggs missing 1 July.
Young fledged as I climbed the nest tree. | Warner
Warner
Warner | | | |
| 12. | U.S. 150, Sec. 34, T47N, R32W | 1 July 1962 | 3 | Young seen feeding with adults near nest tree 7 July. | Warner | | | |
| 13. | U.S. 50, half mi. west of No. 11 | 1 July 1962 | 4 | Nest with eggs blown out of tree 12 July. | Warner | | | |
| 14. | Ranson Rd., Sec. 28, T47N, R31W | 12 July 1962 | | Nest found after eggs hatched and nest in same area as last year. | Warner | | | |
| 15. | U.S. 150, Sec. 36, T47N, R32W | 14 April 1963 | | Spring arrival. | Warner | | | |
| 16. | Blue Springs, sec No. 10 | 23 April 1963 | | Male sighted, but not seen again. | Warner | | | |
| 17. | Reed Area, sec No. 9
U.S. 150, Sec. 29, T47N, R32W
Ranson Road, sec No. 11 | 25 April 1963 | 4 | Young feeding with adults 30 June in same area as 1962. | Warner | | | |
| 18. | Reed Area, sec No. 9 | 26 April 1963 | 5 | Nest with five eggs 22 June, nest in same tree as 1961. | Warner | | | |
| 19. | County road 15E,
Sec. 1, T47N, R31W
200 yds. north of above nest,
Sec. 15, T47N, R31W | 3 May 1963
30 June 1963 | 5
4 | Egg laying began 3 June, banded 6 July.
Young feeding with adults 30 June, nested nearby. | Warner
Warner | | | |

TABLE 1. (Continued.)

	Location	Date	Num- ber of eggs laid	Num- ber of young fledged	Remarks	Observer
20.	Lee's Summit on U.S. 50	5 May 1963			Pair sighted, but no nest found.	Warner
21.	1 mi. west of above nest, Sec. 11, T47N, R31W Blue Springs, see No. 10	17 May 1963			Two pairs sighted in area, but no nest found.	Warner
		17 May 1963	5		Eggs found 22 June, nested in same tree last year. Not banded as landowner refused permission.	Warner
	U.S. 150, 100 yds. east of No. 12	20 May 1963			Nest found 15 June, but could not be reached.	Warner
	Ranson Road and U.S. 50, see No. 11	20 May 1963			Pair in area, but no nest found.	Warner
22.	U.S. 150, Sec. 29, T47N, R31W, Greenwood	26 May 1963	4		Eggs found 16 June, but nest difficult to get to so no further study.	Warner
23.	Greene Co.	Summers 1961-63			One pair nested on a nearby farm for 3 consecutive years.	Fay
24.	Elwood, Sec. 15, T29N, R23W	June and July 1963			Pair found nesting in city.	Fay
25.	Springfield, Sec. 30, T29N, R21W	June and July 1963			Pair nested near town.	Fay
26.	Willard, Sec. 25, T30N, R23W County Road M, Sec. 12, T28N, R23W	27 July 1963	4		Pair with young, adults seen in area during June and July.	Fay and Warner
27.	Cass Co., 4 mi. west of Peculiar, Sec. 14, T45N, R32W	Summers 1960-62			Nested in same tree 3 consecutive years.	Warner
28.	U.S. 71, Sec. 19, T45N, R32W	27 May 1962			Pair seen only once.	Warner
29.	State Rte. 58, Sec. 15, T46N, R30W	5 May 1962			Pair seen only once.	Warner
30.	See No. 28	26 May 1963	3	2	Nest found 26 June, one egg infertile.	Warner
	June. of U.S. 71 and State Rte. 58, Sec. 18, T46N, R23W	16 June 1963	4		Eggs missing from the nest on 22 June. Cause un- known.	Warner
31.	200 yds. east of above location	30 June 1963	5	5	Likely re-nest of above pair.	Warner

32. Stone Co., Table Rock Lake	Summer 1961		Nesting activity for 2 months on south side of lake near Taney County line.	Bright
33. Boone Co., 2 mi. south of Columbia, Highway K	11 October 1961		One juvenile bird collected.	Easterla
34. Henry Co., Shawnee Mound	June and July 1961		Pair nested in area.	Warner
	June and July 1962	3	Adults seen with young in same area as last year.	Warner
	24 June 1963	2	Nest found when young were about 8 days old.	Warner
	25 July 1963	5	Second successful brood of above pair.	Warner
35. Sheldon Co.	June and July 1961-63		Adults seen on U.S. 71.	Warner
36. Vernon Co.	June and July 1961-63		Adults seen on U.S. 71.	Warner
37. Barton Co.	June and July 1961-63		Adults seen on U.S. 71.	Warner
38. Bates Co., Sec. 15, T40N, R31W	29 July 1962	3	Last seen when I banded three young 11 August.	Warner
39. Barry Co., U.S. 60 Sec. 31, T26N, R28W	4 June 1962	3	Found nest with young 30 June.	Warner
40. Half mi. east of above nest	4 June 1962	3	Found nest with young 30 June.	Warner
41. Newton Co.	June 1963		Single male.	Warner
42. Lawrence Co.	19 July 1963		Single male sighted in this county.	Warner
43. Cedar Co.	19 July 1963		Single male sighted in this county.	Warner
44. Dade Co.	19 July 1963		Single male sighted in this county.	Warner
45. Jasper Co.	June 1963		Single male sighted.	Warner
46. Johnson Co., Sec. 20, T47N, R25W	June 1963		Pair sighted.	Warner
47. State Rte. 58, Sec. 6, T45N, R26W	May 1964		Pair sighted.	Warner
48. U.S. 50, Sec. 21, T46N, R25W	May 1964		Single male sighted.	Warner
49. Ray Co., Coolie Lake	10 May 1964		Pair sighted.	Easterla
50. Holt Co., 5 mi. north of Forest City	16 May 1964		Collected an adult male.	Easterla

¹ No date after name indicates not published and taken from their personal field notes.² Taken from the field notes of Easterla.

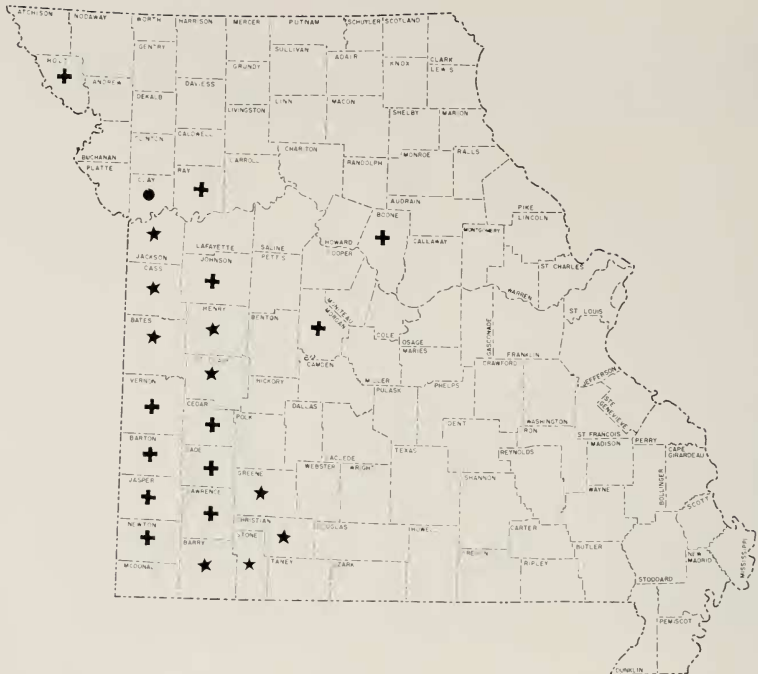


FIG. 2. Counties in Missouri where Scissor-tailed Flycatcher activity has been recorded. + Sight records; ● Adults with young but no nest found; ★ Nesting records.

Since that time they have been definitely found nesting in nine counties and adults with young birds seen in one other (Fig. 2). It is probable that lack of breeding records in many of the southwestern counties for which only sight records have been made is the result of insufficient fieldwork in these areas rather than to a lack of nesting birds.

Fieldwork was done in the west central counties adjacent to the counties with nesting birds, but no breeding pairs were found. Thus, with the exception of Clay County, the breeding range seems to be limited to the western part of the state south of the Missouri River.

SUMMARY

A study of published records and personal fieldwork indicate that the breeding range of the Scissor-tailed Flycatcher is expanding, particularly toward the northeast. Although some of the past records are vague and inaccurate, this expansion is not altogether a recent phenomenon.

The detailed records for the spread of this species into Missouri since 1955 are given together with a compilation of known breeding data. The species is now known to breed in 10 western counties of the state.

Records for recent expansion into other states on the periphery of the range are summarized.

ACKNOWLEDGMENTS

I wish to thank the following people for their help in the preparation of this paper: F. M. Baumgartner, Clarence Cottam, William B. Davis, David Easterla, N. Irving Fay, Doris Gates, Fay Grogan, Oscar Hawksley, Steven Hilty, Philip S. Humphrey, Douglas and Frances James, George H. Lowery, Daniel McKinley, Robert Mengel, Richard F. Myers, Anna May Pickering, and Edward M. Reilly, Jr.; and Sam Hewitt, Director, National Science Foundation Summer Institutes, for funds received during the summers of 1962 and 1963.

LITERATURE CITED

AMERICAN ORNITHOLOGISTS' UNION

1886, 1895, 1910, 1931, 1957. Check-list of North American birds. First, second, third, fourth, and fifth editions.

AUDUBON, J. J.

1839 A synopsis of the birds. Neill and Co., Old Fishmarket, Edinburgh.

BAERG, W. J.

1951 Birds of Arkansas. University of Arkansas, Fayetteville, Arkansas.

BAILEY, F. M.

1928 Birds of New Mexico. New Mexico Department of Game and Fish—Judd and Delweiler, Inc., Washington, D.C.

BAIRD, S. F., T. M. BREWER, AND R. RIDGWAY

1874 A history of North American birds. Land birds. 3 vols. Little, Brown and Co., Boston.

BAIRD, S. F., J. CASSIN, AND G. N. LAWRENCE

1860 The birds of North America. J. B. Lippincott and Company, Philadelphia.

BENNITT, R.

1932 Check-list of birds of Missouri. University of Missouri Press, Columbia.

BENT, A. C.

1942 Life histories of North American flycatchers, larks, swallows, and their allies. *U.S. Natl. Mus. Bull.*, 179.

BONAPARTE, C. L.

1825 American ornithology. Samuel Augustus Mitchell, Philadelphia.

COUES, E.

1874 Birds of the northwest. U.S. Geol. Surv. of the Territories. U.S. Dept. of Interior, Misc. publ. 3.

FAY, N. I.

1958 Briefs. *Bluebird*, 25, no. 8.

FISK, R.

1960 Nesting season. *Audubon Field Notes*, 14:469.

FITCH, F. W., JR.

1950 Life history and ecology of the Scissor-tailed Flycatcher *Muscivora forficata*. *Auk*, 67:145-168.

FORD, N. L.

1959 Note on summer birds of western Nebraska. *Nebraska Bird Review*, 27:8.

- GIER, L. J.
1957 New record. *Bluebird*, 24, no. 11.
- GOODRICH, A. L., JR.
1945 Birds of Kansas. Kansas State Board of Agr., Topeka.
- Goss, N. S.
1891 History of the birds of Kansas. George W. Grane, Topeka.
- HAECKER, F. W., R. A. MOSER, AND J. B. SWENK
1945 Check-list of Nebraska birds. *Nebraska Bird Reviews*, 13.
- HILTY, S.
1957 Scissor-tailed Flycatcher. *Bluebird*, 24, no. 11.
1960 St. Clair County. *Bluebird*, 27:23.
- JAMES, D. A.
1965 Spring migration. *Audubon Field Notes*, 19:484.
- LIGON, J. S.
1961 New Mexico birds. New Mexico Dept. of Game and Fish, University of New Mexico.
- LOWERY, G. H.
1960 Louisiana birds. Louisiana Wildlife and Fisheries Commission, Louisiana State University.
- OBERHOLSER, H. C.
1938 Bird life of Louisiana. Dept. of Conserv., New Orleans.
- SMITH, B.
1965 How the Scissor-tailed Flycatcher became our state bird. *The Scissor-tail*, 15:19.
- STEWART, J. R., JR.
1963 Nesting season. *Audubon Field Notes*, 17:466.
- STURMER, M.
1959 Nesting of the Scissor-tailed Flycatcher in Gage County. *Nebraska Bird Review*, 27:19-20.
- ZIMMERMAN, D. A.
1962 Nesting season. *Audubon Field Notes*, 16:498.
- COLLEGE OF THE SCHOOL OF THE OZARKS, POINT LOOKOUT, MISSOURI, 5 APRIL
1965